Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently amended) A method for identifying a compound that inhibits ~~modulates~~ sister chromatid separation [[by]] comprising inhibiting the proteolytic activity of separase, ~~characterized in that~~ wherein an active separase in the form of

~~a) one or more separase fragments, optionally upon activation in the presence of securin, or~~

~~b)~~ a full-length separase upon activation in the presence of securin[[,]] is incubated in the presence of a separase substrate[[,]] with a test compound, and [[that]] wherein the inhibiting ~~modulating~~ effect of the test compound on the proteolytic activity of the active separase is determined.

2. (Original) The method of claim 1, wherein the active separase is human.

3. (Previously presented) The method of claim 1, wherein the active separase ~~is activated~~ has been obtained by activation of the full-length separase in a mitotic cell extract in the presence of securin.

4. (Original) The method of claim 3, wherein the mitotic cell extract has been obtained from Xenopus laevis eggs.

5. (Currently amended) The method of claim 1, wherein the separase substrate is a peptide comprising a fluorogenic group, ~~which upon~~ wherein processing of the [[poly]]peptide results in a change in fluorescence, and wherein the [[that]] change in fluorescence is correlated with the separase activity.

6. (Currently amended) The method of claim 5, wherein the separase substrate is a peptide ~~selected from peptides containing the~~ comprising an amino acid sequence DREIMR (SEQ ID NO:9), SFEILR (SEQ ID[[.]] NO:11) or EWELLR (SEQ ID NO:12).

7. (Withdrawn) A peptide selected from peptides containing the sequence DREIMR (SEQ ID NO:9), SFEILR (SEQ ID NO:11) or EWELLR (SEQ ID NO:12) or a derivative thereof.

8. (Withdrawn) The peptide of claim 7 or a derivative thereof for the treatment of cancer.

9. (Withdrawn) A pharmaceutical composition comprising the peptide of claim 7.

10. (Withdrawn) An inhibitor of separase identified by the method of claim 1 for human therapy.

11. (New) A method for identifying a compound that inhibits sister chromatid separation comprising inhibiting the proteolytic activity of separase, wherein an active separase in the form of one or more separase fragments, optionally upon activation of a full-length separase in the presence of securin, is incubated in the presence of a separase substrate with a test compound, and wherein the inhibiting effect of the test compound on the proteolytic activity of the active separase is determined.

12. (New) The method of claim 11, wherein the active separase is human.

13. (New) The method of claim 11, wherein the active separase has been obtained by activation of one or more separase fragments in a mitotic cell extract in the presence of securin.

14. (New) The method of claim 13, wherein the mitotic cell extract has been obtained from Xenopus laevis eggs.

15. (New) The method of claim 11, wherein the separase substrate is a peptide comprising a fluorogenic group, wherein processing of the peptide results in a change in fluorescence, and wherein the change in fluorescence is correlated with the separase activity.

16. (New) The method of claim 15, wherein the separase substrate is a peptide comprising an amino acid sequence DREIMR (SEQ ID NO:9), SFEILR (SEQ ID NO:11) or EWELLR (SEQ ID NO:12).